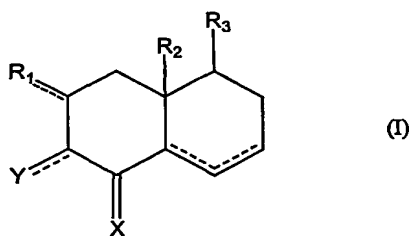


THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A pest controlling composition comprising at least one compound of formula (I) or a tautomer thereof:

5



wherein:

X is selected from the group consisting of O, S or N-R₄;

when ----- is a single bond attached to Y, Y is selected from the group consisting of H,
 10 [C(R₇)₂]_nhalo, [C(R₇)₂]_nOR₅, [C(R₇)₂]_nSR₅, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆,
 [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

when ----- is a double bond attached to Y, Y is O;

when ----- is a single bond attached to R₁, R₁ is selected from the group consisting of H,
 OH, SH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃
 15 arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₄-C₁₀
 cycloalkenylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclalkyl, C₅-C₁₃
 heterocyclalkenyl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyloxy, C₁-C₁₀ alkylthio, C₂-C₁₀
 alkenylthio, [C(R₇)₂]_nhalo, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂,
 [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

20 when ----- is a double bond attached to R₁, R₁ is CR_{1a}R_{1b} wherein R_{1a} and R_{1b} are
 independently selected from C₁-C₁₀alkyl;

R₂ and R₃ are independently selected from the group consisting of H, OH, SH, C₁-C₁₀
 alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-
 C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₄-C₁₀ cycloalkenylalkyl, C₃-

C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyloxy, C₁-C₁₀ alkylthio, C₂-C₁₀ alkenylthio, [C(R₇)₂]_nhalo, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

- 5 each R₄ is independently selected from the group consisting of H, OH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, C₁-C₁₀ alkoxy and C₂-C₁₀ alkenyloxy;

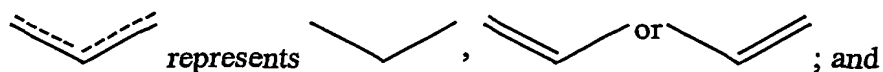
- R₅ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, (C=O)R₆, PO₃R₈, SO₃R₈ and SO₂R₈;

- R₆ is selected from the group consisting of H, OH, C₁-C₁₀ alkoxy, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyloxy, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₆-C₁₀ aryloxy, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₃-C₆ cycloalkyloxy, C₃-C₆ cycloalkenyloxy, C₃-C₁₀ heterocyclyl, C₃-C₁₀ heterocycliloxy, C₁-C₁₀ alkylthio, C₁-C₁₀ alkenylthio, C₆-C₁₀ arylthio, C₃-C₆ cycloalkylthio, and C₃-C₁₀ heterocyclylthio;

- R₇ is selected from the group consisting of H, halogen, OR₅, SR₅, N(R₄)₂, (C=O)R₆, (C=S)R₆, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₃-C₁₀ heterocyclyl, C₃-C₆ cycloalkyl, C₇-C₁₂ arylalkyl, C₄-C₁₂ heterocyclylalkyl, C₄-C₁₀ cycloalkylalkyl, C₈-C₁₃ arylalkenyl, C₅-C₁₃ heterocyclylalkenyl, and NO₂;

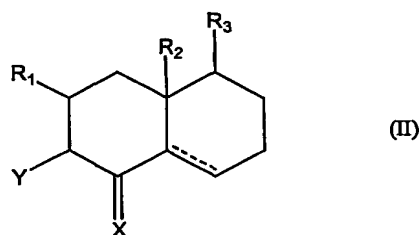
- R₈ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₅-C₁₀ cycloalkylalkenyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl and C₅-C₁₃ heterocyclylalkenyl;

n is 0 or an integer selected from 1 to 5;



wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group is optionally substituted.

2. A composition according to claim 1 wherein the compound of formula (I) is a compound of formula (II):



5

wherein:

X is selected from the group consisting of O, S or N-R₄;

Y is selected from the group consisting of H, [C(R₇)₂]_nhalo, [C(R₇)₂]_nOR₅, [C(R₇)₂]_nSR₅, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

10

R₁, R₂ and R₃ are independently selected from the group consisting of H, OH, SH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₄-C₁₀ cycloalkenylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyloxy, C₁-C₁₀ alkylthio, C₂-C₁₀ alkenylthio, [C(R₇)₂]_nhalo, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

15

each R₄ is independently selected from the group consisting of H, OH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, C₁-C₁₀ alkoxy and C₂-C₁₀ alkenyloxy;

20

R₅ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, (C=O)R₆, PO₃R₈, SO₃R₈ and SO₂R₈;

25

- 50 -

R₆ is selected from the group consisting of H, OH, C₁-C₁₀ alkoxy, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyloxy, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₆-C₁₀ aryloxy, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₃-C₆ cycloalkyloxy, C₃-C₆ cycloalkenyloxy, C₃-C₁₀ heterocyclyl, C₃-C₁₀ heterocyclyloxy, C₁-C₁₀ alkylthio, C₁-C₁₀ alkenylthio, C₆-C₁₀ arylthio, C₃-C₆ cycloalkylthio, and C₃-C₁₀ heterocyclylthio;

R₇ is selected from the group consisting of H, halogen, OR₅, SR₅, N(R₄)₂, (C=O)R₆, (C=S)R₆, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₃-C₁₀ heterocyclyl, C₃-C₆ cycloalkyl, C₇-C₁₂ arylalkyl, C₄-C₁₂ heterocyclylalkyl, C₄-C₁₀ cycloalkylalkyl, C₈-C₁₃ arylalkenyl, C₅-C₁₃ heterocyclylalkenyl, and NO₂;

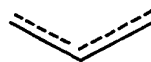
10 R₈ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₅-C₁₀ cycloalkylalkenyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl and C₅-C₁₃ heterocyclylalkenyl;

n is 0 or an integer selected from 1 to 5;

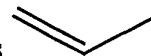
15 ----- represents a single or double bond; and

wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group is optionally substituted.

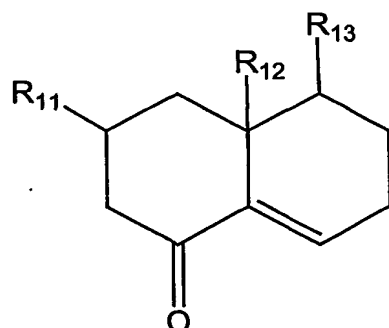
3. A composition according to claim 1 wherein



represents



4. A composition according to claim 1 comprising at least one compound of formula (III):



(III)

wherein R_{11} is selected from the group consisting of C_2 - C_{10} alkenyl, C_7 - C_{12} arylalkyl, C_6 - C_{12} heteroarylalkyl and C_2 - C_{10} alkenyloxy wherein each C_2 - C_{10} alkenyl or C_2 - C_{10} alkenyloxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups; and

R_{12} and R_{13} are independently selected from the group consisting of H, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_2 - C_{10} alkynyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_3 - C_{10} cycloalkyl, C_5 - C_{10} heteroaryl, C_6 - C_{12} heteroarylalkyl and C_1 - C_{10} alkoxy, wherein each C_1 - C_{10} alkyl and C_1 - C_{10} alkoxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups.

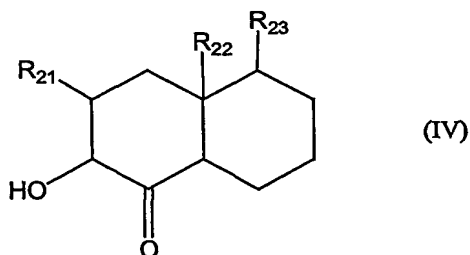
5. A composition according to claim 4, wherein R_{11} is C_2 - C_{10} alkenyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups, and R_{12} and R_{13} are independently selected from C_1 - C_{10} alkyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups.

6. A composition according to claim 1 wherein at least one compound of formula (I) is eremophilone.

7. A composition according to claim 1 wherein



8. A composition according to claim 1 comprising at least one compound of formula (IV):



wherein R_{21} , R_{22} and R_{23} are independently selected from the group consisting of H, OH, SH, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_2 - C_{10} alkynyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_4 - C_{10} cycloalkenylalkyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclylalkyl, C_5 - C_{13} heterocyclylalkenyl, C_1 - C_{10} alkoxy, C_2 - C_{10} alkenyloxy, C_1 - C_{10} alkylthio, C_2 - C_{10} alkenylthio, $[C(R_7)_2]_n$ halo, $[C(R_7)_2]_n(C=O)R_6$, $[C(R_7)_2]_n(C=S)R_6$, $[C(R_7)_2]_nN(R_4)_2$,

$[C(R_7)_2]_n(C=NR_4)R_6$, $[C(R_7)_2]_nNO_2$ and $[C(R_7)_2]_nNR_4OR_8$;

each R_4 is independently selected from the group consisting of H, OH, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclylalkyl, C_5 - C_{13} heterocyclylalkenyl, C_1 - C_{10} alkoxy and C_2 - C_{10} alkenyloxy;

R_6 is selected from the group consisting of H, OH, C_1 - C_{10} alkoxy, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyloxy, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_6 - C_{10} aryloxy, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_3 - C_6 cycloalkyloxy, C_3 - C_6 cycloalkenyloxy, C_3 - C_{10} heterocyclyl, C_3 - C_{10} heterocycliloxy, C_1 - C_{10} alkylthio, C_1 - C_{10} alkenylthio, C_6 - C_{10} arylthio, C_3 - C_6 cycloalkylthio, and C_3 - C_{10} heterocyclylthio;

R_7 is selected from the group consisting of H, halogen, OR_5 , SR_5 , $N(R_4)_2$, $(C=O)R_6$, $(C=S)R_6$, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_3 - C_{10} heterocyclyl, C_3 - C_6 cycloalkyl, C_7 - C_{12} arylalkyl, C_4 - C_{12} heterocyclylalkyl, C_4 - C_{10} cycloalkylalkyl, C_8 - C_{13} arylalkenyl, C_5 - C_{13} heterocyclylalkenyl, and NO_2 ;

R_8 is selected from the group consisting of H, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_5 - C_{10} cycloalkylalkenyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclylalkyl and C_5 - C_{13} heterocyclylalkenyl; and

n is 0 or an integer selected from 1 to 5;

wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group is optionally substituted.


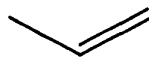
9. A composition according to claim 8 wherein R_{21} is selected from the group consisting of C_2 - C_{10} alkenyl, C_7 - C_{12} arylalkyl, C_6 - C_{12} heteroarylalkyl and C_2 - C_{10} alkenyloxy wherein each C_2 - C_{10} alkenyl or C_2 - C_{10} alkenyloxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups; and

R_{22} and R_{23} are independently selected from the group consisting of H, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_2 - C_{10} alkynyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_3 - C_{10} cycloalkyl, C_5 - C_{10} heteroaryl, C_6 - C_{12} heteroarylalkyl and C_1 - C_{10} alkoxy, wherein each C_1 - C_{10} alkyl and C_1 - C_{10} alkoxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups.

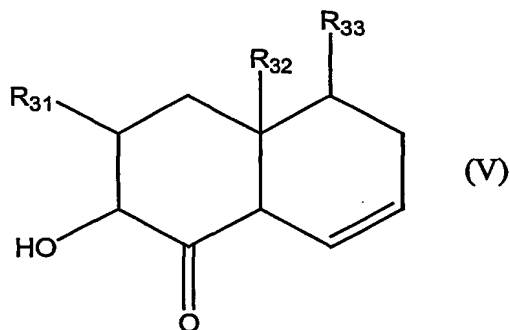
- 53 -

10. A composition according to claim 8 wherein R_{21} is C_2 - C_{10} alkenyl, optionally substituted with a hydroxy, thiol or nitro group or 1 to 3 halo groups, and R_{22} and R_{23} are independently selected from C_1 - C_{10} alkyl, optionally substituted with a hydroxy, thiol or nitro group or 1 to 3 halo groups.

5 11. A composition according to claim 1 wherein at least one compound of formula (I) is 8-hydroxy-1(10)dihydroeremophilone.

12. A composition according to claim 1 wherein  represents .

13. A composition according to claim 1 comprising at least one compound of formula (V):



10 wherein R_{31} is selected from the group consisting of C_2 - C_{10} alkenyl, C_7 - C_{12} arylalkyl, C_6 - C_{12} heteroarylalkyl and C_2 - C_{10} alkenyloxy wherein each C_2 - C_{10} alkenyl or C_2 - C_{10} alkenyloxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups; and

R_{32} and R_{33} are independently selected from the group consisting of H, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_2 - C_{10} alkynyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_3 - C_{10} cycloalkyl, C_5 - C_{10} heteroaryl, C_6 - C_{12} heteroarylalkyl and C_1 - C_{10} alkoxy, wherein each C_1 - C_{10} alkyl and C_1 - C_{10} alkoxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups.

14. A composition according to claim 13 wherein R_{31} is C_2 - C_{10} alkenyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups, and R_{32} and R_{33} are independently selected from C_1 - C_{10} alkyl optionally substituted with a hydroxy, nitro or
20 thiol group or 1 to 3 halo groups.

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15. A composition according to claim 1 wherein at least one compound of formula (I) is 8-hydroxyeremophila-1,11-dienone.

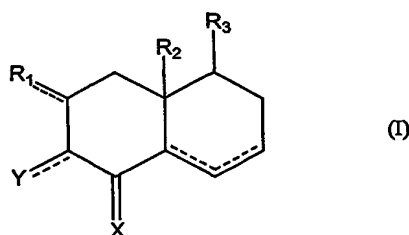
16. A composition according to claim 1 comprising an extract containing at least one compound of formula (I) obtained from a volatile oil bearing plant from the Myoporaceae family.

17. A composition according to claim 16 wherein the extract is obtained from *Eremophila*, *Myoporum* and *Bonita* genera.

18. A composition according to claim 17 wherein the extract is obtained from *E. alternifolia*, *E. duttonii*, *E. Freelingii*, *E. longifolia*, *E. cuneifolia*, *E. dalayana*, *E. abietina*,
10 *E. caerulea*, *E. virgata*, *E. interstans*, *E. flaccida*, *E. leucophylla*, *E. metallicorum*, *E. georgei*, *E. subteritifolia*.

19. A composition according to claim 1 further comprising one or more of an adjuvant, additive or carrier.

20. A pest controlling composition comprising more than one compound of formula (I) or a tautomer thereof:



wherein:

X is selected from the group consisting of O, S or N-R₄;

when ----- is a single bond attached to Y, Y is selected from the group consisting of H,
20 [C(R₇)₂]_nhalo, [C(R₇)₂]_nOR₅, [C(R₇)₂]_nSR₅, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆,
[C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

when ----- is a double bond attached to Y, Y is O;

when ----- is a single bond attached to R₁, R₁ is selected from the group consisting of H,

OH, SH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₄-C₁₀ cycloalkenylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyloxy, C₁-C₁₀ alkylthio, C₂-C₁₀ alkenylthio, [C(R₇)₂]_nhalo, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

when ----- is a double bond attached to R₁, R₁ is CR_{1a}R_{1b} wherein R_{1a} and R_{1b} are independently selected from C₁-C₁₀alkyl;

R₂ and R₃ are independently selected from the group consisting of H, OH, SH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₄-C₁₀ cycloalkenylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyloxy, C₁-C₁₀ alkylthio, C₂-C₁₀ alkenylthio, [C(R₇)₂]_nhalo, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

each R₄ is independently selected from the group consisting of H, OH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, C₁-C₁₀ alkoxy and C₂-C₁₀ alkenyloxy;

R₅ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, (C=O)R₆, PO₃R₈, SO₃R₈ and SO₂R₈;

R₆ is selected from the group consisting of H, OH, C₁-C₁₀ alkoxy, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyloxy, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₆-C₁₀ aryloxy, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₃-C₆ cycloalkyloxy, C₃-C₆ cycloalkenyloxy, C₃-C₁₀ heterocyclyl, C₃-C₁₀ heterocycliloxy, C₁-C₁₀ alkylthio, C₁-C₁₀ alkenylthio, C₆-C₁₀ arylthio, C₃-C₆ cycloalkylthio, and C₃-C₁₀ heterocyclylthio;

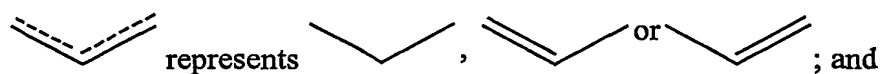
R₇ is selected from the group consisting of H, halogen, OR₅, SR₅, N(R₄)₂, (C=O)R₆,

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(C=S)R₆, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₃-C₁₀ heterocyclyl, C₃-C₆ cycloalkyl, C₇-C₁₂ arylalkyl, C₄-C₁₂ heterocyclalkyl, C₄-C₁₀ cycloalkylalkyl, C₈-C₁₃ arylalkenyl, C₅-C₁₃ heterocyclalkenyl, and NO₂;

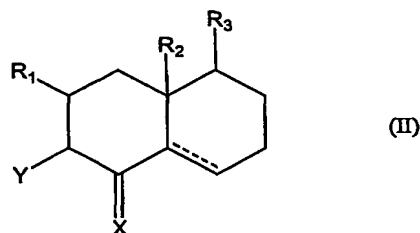
R₈ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₅-C₁₀ cycloalkylalkenyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclalkyl and C₅-C₁₃ heterocyclalkenyl;

n is 0 or an integer selected from 1 to 5;



10 wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group is optionally substituted.

21. A composition according to claim 20 wherein at least one compound of formula (I) is a compound of formula (II):



15 wherein:

X is selected from the group consisting of O, S or N-R₄;

Y is selected from the group consisting of H, [C(R₇)₂]_nhalo, [C(R₇)₂]_nOR₅, [C(R₇)₂]_nSR₅, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

20 R₁, R₂ and R₃ are independently selected from the group consisting of H, OH, SH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₄-C₁₀ cycloalkenylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclalkyl, C₅-C₁₃ heterocyclalkenyl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyloxy, C₁-C₁₀ alkylthio, C₂-C₁₀ alkenylthio, [C(R₇)₂]_nhalo, [C(R₇)₂]_n(C=O)R₆,

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$[C(R_7)_2]_n(C=S)R_6$, $[C(R_7)_2]_nN(R_4)_2$, $[C(R_7)_2]_n(C=NR_4)R_6$, $[C(R_7)_2]_nNO_2$ and $[C(R_7)_2]_nNR_4OR_8$;

each R_4 is independently selected from the group consisting of H, OH, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclylalkyl, C_5 - C_{13} heterocyclylalkenyl, C_1 - C_{10} alkoxy and C_2 - C_{10} alkenyloxy;

R_5 is selected from the group consisting of H, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclylalkyl, C_5 - C_{13} heterocyclylalkenyl, $(C=O)R_6$, PO_3R_8 , SO_3R_8 and SO_2R_8 ;

R_6 is selected from the group consisting of H, OH, C_1 - C_{10} alkoxy, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyloxy, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_6 - C_{10} aryloxy, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_3 - C_6 cycloalkyloxy, C_3 - C_6 cycloalkenyloxy, C_3 - C_{10} heterocyclyl, C_3 - C_{10} heterocyclyoxy, C_1 - C_{10} alkylthio, C_1 - C_{10} alkenylthio, C_6 - C_{10} arylthio, C_3 - C_6 cycloalkylthio, and C_3 - C_{10} heterocyclylthio;

R_7 is selected from the group consisting of H, halogen, OR_5 , SR_5 , $N(R_4)_2$, $(C=O)R_6$, $(C=S)R_6$, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_3 - C_{10} heterocyclyl, C_3 - C_6 cycloalkyl, C_7 - C_{12} arylalkyl, C_4 - C_{12} heterocyclylalkyl, C_4 - C_{10} cycloalkylalkyl, C_8 - C_{13} arylalkenyl, C_5 - C_{13} heterocyclylalkenyl, and NO_2 ;

R_8 is selected from the group consisting of H, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_5 - C_{10} cycloalkylalkenyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclylalkyl and C_5 - C_{13} heterocyclylalkenyl;

n is 0 or an integer selected from 1 to 5;

----- represents a single or double bond; and

wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group is optionally substituted.

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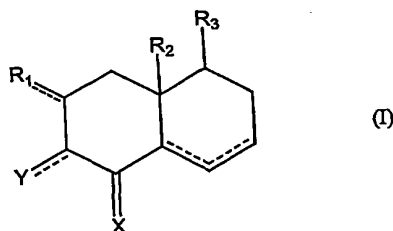
22. A composition according to claim 20 comprising an extract obtained from a volatile oil bearing plant from the Myoporaceae family.

23. A composition according to claim 22 wherein the extract is obtained from *Eremophila*, *Myoporum* and *Bonita* genera.

5 24. A composition according to claim 23 wherein the extract is obtained from *E. alternifolia*, *E. duttonii*, *E. Freelingii*, *E. longifolia*, *E. cuneifolia*, *E. dalayana*, *E. abietina*, *E. caerulea*, *E. virgata*, *E. interstans*, *E. flaccida*, *E. leucophylla*, *E. metallicorum*, *E. georgei*, *E. subteritifolia*.

25. A composition according to claim 20 further comprising one or more of an adjuvant
10 additive or carrier.

26. A method for controlling pests, said method comprising exposing said pests to a pest-controlling effective amount of a compound of formula (I) or a tautomer thereof or a composition comprising at least one compound of formula (I) or a tautomer thereof:



15 wherein:

X is selected from O, S or N-R₄;

when ----- is a single bond attached to Y, Y is selected from the group consisting of H, [C(R₇)₂]_nhalo, [C(R₇)₂]_nOR₅, [C(R₇)₂]_nSR₅, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

20 when ----- is a double bond attached to Y, Y is O;

when ----- is a single bond attached to R₁, R₁ is selected from the group consisting of H, OH, SH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₄-C₁₀

cycloalkenylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclalkyl, C₅-C₁₃ heterocyclalkenyl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyloxy, C₁-C₁₀ alkylthio, C₂-C₁₀ alkenylthio, [C(R₇)₂]_nhalo, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

- 5 when ----- is a double bond attached to R₁, R₁ is CR_{1a}R_{1b} wherein R_{1a} and R_{1b} are independently selected from C₁-C₁₀alkyl;

R₂ and R₃ are independently selected from the group consisting of H, OH, SH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₄-C₁₀ cycloalkenylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclalkyl, C₅-C₁₃ heterocyclalkenyl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyloxy, C₁-C₁₀ alkylthio, C₂-C₁₀ alkenylthio, [C(R₇)₂]_nhalo, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

each R₄ is independently selected from the group consisting of H, OH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclalkyl, C₅-C₁₃ heterocyclalkenyl, C₁-C₁₀ alkoxy and C₂-C₁₀ alkenyloxy;

R₅ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclalkyl, C₅-C₁₃ heterocyclalkenyl, (C=O)R₆, PO₃R₈, SO₃R₈ and SO₂R₈;

R₆ is selected from the group consisting of H, OH, C₁-C₁₀ alkoxy, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyloxy, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₆-C₁₀ aryloxy, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₃-C₆ cycloalkyloxy, C₃-C₆ cycloalkenyloxy, C₃-C₁₀ heterocyclyl, C₃-C₁₀ heterocycloxy, C₁-C₁₀ alkylthio, C₁-C₁₀ alkenylthio, C₆-C₁₀ arylthio, C₃-C₆ cycloalkylthio, and C₃-C₁₀ heterocyclthio;

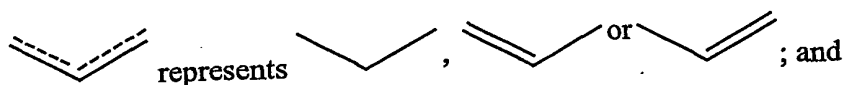
R₇ is selected from the group consisting of H, halogen, OR₅, SR₅, N(R₄)₂, (C=O)R₆, (C=S)R₆, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₃-C₁₀ heterocyclyl, C₃-C₆ cycloalkyl, C₇-C₁₂ arylalkyl, C₄-C₁₂ heterocyclalkyl, C₄-C₁₀ cycloalkylalkyl, C₈-C₁₃ arylalkenyl, C₅-

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C₁₃ heterocyclalkenyl, and NO₂;

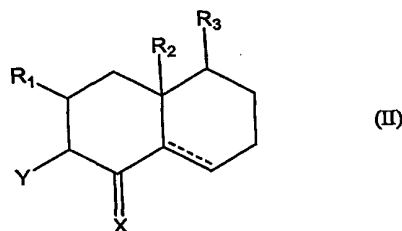
- R₈ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₅-C₁₀ cycloalkylalkenyl, C₃-C₁₀ heterocycl, C₄-C₁₂ heterocyclalkyl and C₅-C₁₃ heterocyclalkenyl;

n is 0 or an integer selected from 1 to 5;



wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocycl group is optionally substituted.

- 10 27. A method according to claim 26 wherein the compound of formula (I) is a compound of formula (II):



wherein:

X is selected from the group consisting of O, S or N-R₄;

- 15 Y is selected from the group consisting of H, [C(R₇)₂]_nhalo, [C(R₇)₂]_nOR₅, [C(R₇)₂]_nSR₅, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

- R₁, R₂ and R₃ are independently selected from the group consisting of H, OH, SH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₄-C₁₀ cycloalkenylalkyl, C₃-C₁₀ heterocycl, C₄-C₁₂ heterocyclalkyl, C₅-C₁₃ heterocyclalkenyl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyloxy, C₁-C₁₀ alkylthio, C₂-C₁₀ alkenylthio, [C(R₇)₂]_nhalo, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;
- 20

each R_4 is independently selected from the group consisting of H, OH, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclylalkyl, C_5 - C_{13} heterocyclylalkenyl, C_1 - C_{10} alkoxy and C_2 - C_{10} alkenyloxy;

- 5 R_5 is selected from the group consisting of H, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclylalkyl, C_5 - C_{13} heterocyclylalkenyl, $(C=O)R_6$, PO_3R_8 , SO_3R_8 and SO_2R_8 ;

- 10 R_6 is selected from the group consisting of H, OH, C_1 - C_{10} alkoxy, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyloxy, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_6 - C_{10} aryloxy, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_3 - C_6 cycloalkyloxy, C_3 - C_6 cycloalkenyloxy, C_3 - C_{10} heterocyclyl, C_3 - C_{10} heterocycliloxy, C_1 - C_{10} alkylthio, C_1 - C_{10} alkenylthio, C_6 - C_{10} arylthio, C_3 - C_6 cycloalkylthio, and C_3 - C_{10} heterocyclylthio;

- 15 R_7 is selected from the group consisting of H, halogen, OR_5 , SR_5 , $N(R_4)_2$, $(C=O)R_6$, $(C=S)R_6$, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_3 - C_{10} heterocyclyl, C_3 - C_6 cycloalkyl, C_7 - C_{12} arylalkyl, C_4 - C_{12} heterocyclylalkyl, C_4 - C_{10} cycloalkylalkyl, C_8 - C_{13} arylalkenyl, C_5 - C_{13} heterocyclylalkenyl, and NO_2 ;

- 20 R_8 is selected from the group consisting of H, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_5 - C_{10} cycloalkylalkenyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclylalkyl and C_5 - C_{13} heterocyclylalkenyl;

n is 0 or an integer selected from 1 to 5;

----- represents a single or double bond; and

wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group

- 25 is optionally substituted.

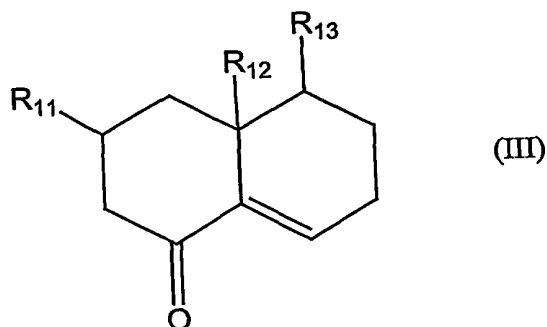
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28. A method according to claim 26, wherein
compound of formula (I).



29. A method according to claim 26, wherein at least one compound of formula (I) is a
compound of formula (III):

5



wherein


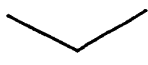
10 R_{11} is selected from the group consisting of C_2 - C_{10} alkenyl, C_7 - C_{12} arylalkyl, C_6 - C_{12} heteroarylalkyl and C_2 - C_{10} alkenyloxy wherein each C_2 - C_{10} alkenyl or C_2 - C_{10} alkenyloxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups; and

15 R_{12} and R_{13} are independently selected from the group consisting of H, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_2 - C_{10} alkynyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_3 - C_{10} cycloalkyl, C_5 - C_{10} heteroaryl, C_6 - C_{12} heteroarylalkyl and C_1 - C_{10} alkoxy, wherein each C_1 - C_{10} alkyl and C_1 - C_{10} alkoxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups.

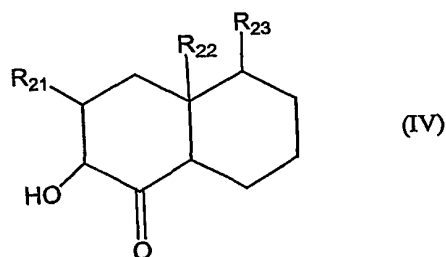
- 63 -

30. A method according to claim 29, wherein R_{11} is C_2 - C_{10} alkenyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups, and R_{12} and R_{13} are independently selected from C_1 - C_{10} alkyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups.

5 31. A method according to claim 26 wherein at least one compound of formula (I) is eremophilone.

32. A method according to claim 26 wherein  represents  in the compound of formula (I).

33. A method according to claim 26 wherein at least one compound of formula (I) is a
10 compound of formula (IV):



wherein R_{21} , R_{22} and R_{23} are independently selected from the group consisting of H, OH, SH, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_2 - C_{10} alkynyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_4 - C_{10} cycloalkenylalkyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclylalkyl, C_5 - C_{13} heterocyclylalkenyl, C_1 - C_{10} alkoxy, C_2 - C_{10} alkenyloxy, C_1 - C_{10} alkylthio, C_2 - C_{10} alkenylthio, $[C(R_7)_2]_n$ halo, $[C(R_7)_2]_n(C=O)R_6$, $[C(R_7)_2]_n(C=S)R_6$, $[C(R_7)_2]_nN(R_4)_2$, $[C(R_7)_2]_n(C=NR_4)R_6$, $[C(R_7)_2]_nNO_2$ and $[C(R_7)_2]_nNR_4OR_8$;

each R_4 is independently selected from the group consisting of H, OH, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclylalkyl, C_5 - C_{13} heterocyclylalkenyl, C_1 - C_{10} alkoxy and C_2 - C_{10} alkenyloxy;

R_6 is selected from the group consisting of H, OH, C_1 - C_{10} alkoxy, C_1 - C_{10} alkyl, C_2 - C_{10}

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alkenyloxy, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₆-C₁₀ aryloxy, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₃-C₆ cycloalkyloxy, C₃-C₆ cycloalkenyloxy, C₃-C₁₀ heterocyclyl, C₃-C₁₀ heterocycloxy, C₁-C₁₀ alkylthio, C₁-C₁₀ alkenylthio, C₆-C₁₀ arylthio, C₃-C₆ cycloalkylthio, and C₃-C₁₀ heterocyclylthio;

- 5 R₇ is selected from the group consisting of H, halogen, OR₅, SR₅, N(R₄)₂, (C=O)R₆, (C=S)R₆, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₃-C₁₀ heterocyclyl, C₃-C₆ cycloalkyl, C₇-C₁₂ arylalkyl, C₄-C₁₂ heterocyclalkyl, C₄-C₁₀ cycloalkylalkyl, C₈-C₁₃ arylalkenyl, C₅-C₁₃ heterocyclalkenyl, and NO₂;

- 10 R₈ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₅-C₁₀ cycloalkylalkenyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclalkyl and C₅-C₁₃ heterocyclalkenyl; and

n is 0 or an integer selected from 1 to 5;

wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group

- 15 is optionally substituted.


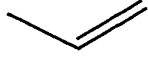
34. A method according to claim 33 wherein R₂₁ is selected from the group consisting of C₂-C₁₀ alkenyl, C₇-C₁₂ arylalkyl, C₆-C₁₂ heteroarylalkyl and C₂-C₁₀ alkenyloxy wherein each C₂-C₁₀ alkenyl or C₂-C₁₀ alkenyloxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups; and

- 20 R₂₂ and R₂₃ are independently selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₃-C₁₀ cycloalkyl, C₅-C₁₀ heteroaryl, C₆-C₁₂ heteroarylalkyl and C₁-C₁₀ alkoxy, wherein each C₁-C₁₀ alkyl and C₁-C₁₀ alkoxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups.

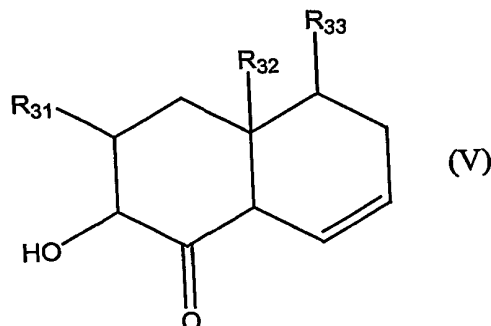
35. A method according to claim 34 wherein R₂₁ is C₂-C₁₀ alkenyl, optionally substituted
25 with a hydroxy, thiol or nitro group or 1 to 3 halo groups, and R₂₂ and R₂₃ are independently selected from C₁-C₁₀ alkyl, optionally substituted with a hydroxy, thiol or nitro group or 1 to 3 halo groups.

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36. A method according to claim 26 wherein at least one compound of formula (I) is 8-hydroxy-1(10)dihydroeremophilone.

37. A composition according to claim 1 wherein  represents .

38. A composition according to claim 1 comprising at least one compound of formula (V):



5

wherein R_{31} is selected from the group consisting of C_2 - C_{10} alkenyl, C_7 - C_{12} arylalkyl, C_6 - C_{12} heteroarylalkyl and C_2 - C_{10} alkenyloxy wherein each C_2 - C_{10} alkenyl or C_2 - C_{10} alkenyloxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups; and

10 R_{32} and R_{33} are independently selected from the group consisting of H, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_2 - C_{10} alkynyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_3 - C_{10} cycloalkyl, C_5 - C_{10} heteroaryl, C_6 - C_{12} heteroarylalkyl and C_1 - C_{10} alkoxy, wherein each C_1 - C_{10} alkyl and C_1 - C_{10} alkoxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups.

15 39. A composition according to claim 38 wherein R_{31} is C_2 - C_{10} alkenyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups, and R_{32} and R_{33} are independently selected from C_1 - C_{10} alkyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups.

40. A composition according to claim 1 wherein at least one compound of formula (I) is 8-hydroxyeremophila-1,11-dienone.

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41. A method according to claim 26 wherein the composition comprises an extract containing at least one compound of formula (I) obtained from a volatile oil bearing plant from the Myoporaceae family.

42. A method according to claim 41 wherein the extract is obtained from *Eremophila*,
5 *Myoporum* and *Bonita* genera.

43. A method according to claim 42 wherein the extract is obtained from *E. alternifolia*,
E. duttonii, *E. Freelingii*, *E. longifolia*, *E. cuneifolia*, *E. dalayana*, *E. abietina*, *E. caerulea*,
E. virgata, *E. interstans*, *E. flaccida*, *E. leucophylla*, *E. metallicorum*, *E. georgei*, *E.*
subteritifolia.

10 44. A method according to claim 26 wherein the pest-controlling effective amount is a
pesticidally effective amount.

45. A method according to claim 26 wherein the pest-controlling effective amount is a
pest-repelling effective amount.

46. A method according to claim 26 wherein the pest-controlling effective amount is a
15 antifeedant effective amount.

47. A method according to claim 26 wherein the pests are selected from the group
consisting of insects, arachnids, helminths and molluscs.

48. A method according to claim 26 wherein the pests are selected from the group
consisting of termites, earwigs, cockroaches and wood borer beetles and their larvae.

20 49. A method according to claim 26 wherein the pests are wood associated pests.

50. A method according to claim 49 wherein the wood associated pests are selected from
the group consisting of termites and wood borer beetles.

51. A method according to claim 50 wherein the wood associated pests are termites.

52. A method according to claim 26 wherein pests are exposed to the pest-controlling
25 effective amount of a compound of formula (I) or a composition comprising at least one

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compound of formula (I) by applying the compound or composition to a site of infestation, a potential site of infestation, a habitat of the pest or a potential habitat of the pest.

53. A method according to claim 52 wherein the compound or composition is applied to a surface or impregnated into a material or article of manufacture.

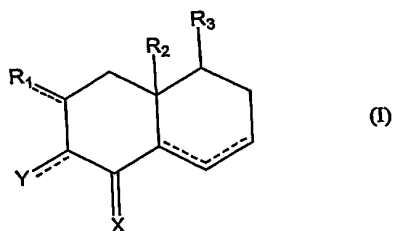
5 54. A method according to claim 53 wherein the compound or composition is applied to a surface by spraying, coating or painting the surface.

55. A method according to claim 54 wherein the surface is a soil surface, timber, buildings, wooden articles of manufacture or a physical barrier.

56. A method according to claim 55 wherein the material or article of manufacture is soil,
10 timber, timber or wooden products or buildings or parts of buildings.

57. A method according to claim 52 wherein the compound or composition is applied in a band or furrow around a site of infestation or potential infestation or is mixed with a layer of soil at a site of infestation or a potential site of infestation.

58. A material or article of manufacture for use in pest control that is coated or
15 impregnated with at least one compound of formula (I) or a tautomer thereof or with a composition containing at least one compound of formula (I) or a tautomer thereof:



wherein:

X is selected from the group consisting of O, S or N-R₄;

20 when ----- is a single bond attached to Y, Y is selected from the group consisting of H, [C(R₇)₂]_nhalo, [C(R₇)₂]_nOR₅, [C(R₇)₂]_nSR₅, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

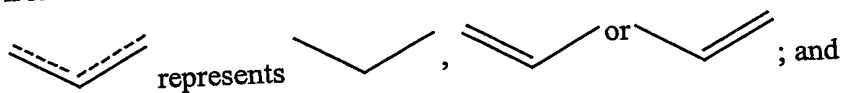
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cycloalkylthio, and C₃-C₁₀ heterocyclylthio;

- R₇ is selected from the group consisting of H, halogen, OR₅, SR₅, N(R₄)₂, (C=O)R₆, (C=S)R₆, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₃-C₁₀ heterocyclyl, C₃-C₆ cycloalkyl, C₇-C₁₂ arylalkyl, C₄-C₁₂ heterocyclylalkyl, C₄-C₁₀ cycloalkylalkyl, C₈-C₁₃ arylalkenyl, C₅-C₁₃ heterocyclylalkenyl, and NO₂;

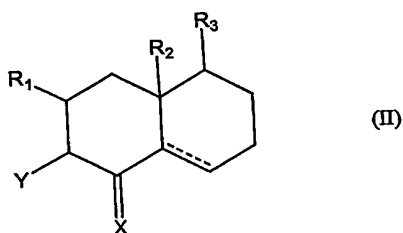
- R₈ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₅-C₁₀ cycloalkylalkenyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl and C₅-C₁₃ heterocyclylalkenyl;

- 10 n is 0 or an integer selected from 1 to 5;



wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group is optionally substituted.

59. A material or article of manufacture for use in pest control according to claim 58
15 wherein the compound of formula (I) is a compound of formula (II):



wherein:

X is selected from the group consisting of O, S or N-R₄;

- Y is selected from the group consisting of H, [C(R₇)₂]_nhalo, [C(R₇)₂]_nOR₅, [C(R₇)₂]_nSR₅, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

R₁, R₂ and R₃ are independently selected from the group consisting of H, OH, SH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-

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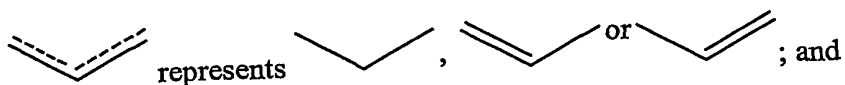
cycloalkylthio, and C₃-C₁₀ heterocyclylthio;

R₇ is selected from the group consisting of H, halogen, OR₅, SR₅, N(R₄)₂, (C=O)R₆, (C=S)R₆, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₃-C₁₀ heterocyclyl, C₃-C₆ cycloalkyl, C₇-C₁₂ arylalkyl, C₄-C₁₂ heterocyclalkyl, C₄-C₁₀ cycloalkylalkyl, C₈-C₁₃ arylalkenyl, C₅-

5 C₁₃ heterocyclalkenyl, and NO₂;

R₈ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₅-C₁₀ cycloalkylalkenyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclalkyl and C₅-C₁₃ heterocyclalkenyl;

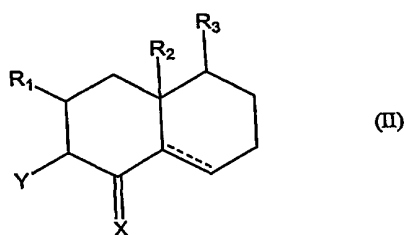
10 n is 0 or an integer selected from 1 to 5;



wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocycl group is optionally substituted.

59. A material or article of manufacture according to claim 58 wherein the compound of

15 formula (I) is a compound of formula (II):



wherein:

X is selected from the group consisting of O, S or N-R₄;

Y is selected from the group consisting of H, [C(R₇)₂]_nhalo, [C(R₇)₂]_nOR₅, [C(R₇)₂]_nSR₅, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and [C(R₇)₂]_nNR₄OR₈;

R₁, R₂ and R₃ are independently selected from the group consisting of H, OH, SH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-

C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₄-C₁₀ cycloalkenylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyloxy, C₁-C₁₀ alkylthio, C₂-C₁₀ alkenylthio, [C(R₇)₂]_nhalo, [C(R₇)₂]_n(C=O)R₆, [C(R₇)₂]_n(C=S)R₆, [C(R₇)₂]_nN(R₄)₂, [C(R₇)₂]_n(C=NR₄)R₆, [C(R₇)₂]_nNO₂ and
 5 [C(R₇)₂]_nNR₄OR₈;

each R₄ is independently selected from the group consisting of H, OH, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, C₁-C₁₀ alkoxy and C₂-C₁₀ alkenyloxy;

10 R₅ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl, C₅-C₁₃ heterocyclylalkenyl, (C=O)R₆, PO₃R₈, SO₃R₈ and SO₂R₈;

R₆ is selected from the group consisting of H, OH, C₁-C₁₀ alkoxy, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyloxy, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₆-C₁₀ aryloxy, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₃-C₆ cycloalkyloxy, C₃-C₆ cycloalkenyloxy, C₃-C₁₀ heterocyclyl, C₃-C₁₀ heterocyclyoxy, C₁-C₁₀ alkylthio, C₁-C₁₀ alkenylthio, C₆-C₁₀ arylthio, C₃-C₆ cycloalkylthio, and C₃-C₁₀ heterocyclylthio;

R₇ is selected from the group consisting of H, halogen, OR₅, SR₅, N(R₄)₂, (C=O)R₆, (C=S)R₆, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₃-C₁₀ heterocyclyl, C₃-C₆ cycloalkyl, C₇-C₁₂ arylalkyl, C₄-C₁₂ heterocyclylalkyl, C₄-C₁₀ cycloalkylalkyl, C₈-C₁₃ arylalkenyl, C₅-C₁₃ heterocyclylalkenyl, and NO₂;

R₈ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₅-C₁₀ cycloalkylalkenyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl and C₅-C₁₃ heterocyclylalkenyl;


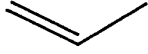
n is 0 or an integer selected from 1 to 5;

----- represents a single or double bond; and

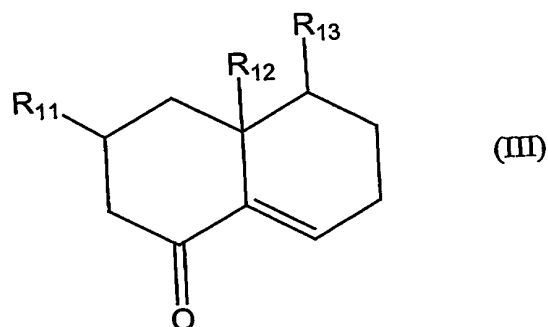
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wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group is optionally substituted.

60. A material or article of manufacture for use in pest control according to claim 58,

wherein  represents  in the compound of formula (I).

5 61. A material or article of manufacture for use in pest control according to claim 58, wherein at least one compound of formula (I) is a compound of formula (III):



wherein R₁₁ is selected from the group consisting of C₂-C₁₀ alkenyl, C₇-C₁₂ arylalkyl, C₆-C₁₂ heteroarylalkyl and C₂-C₁₀ alkenyloxy wherein each C₂-C₁₀ alkenyl or C₂-C₁₀ alkenyloxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups; and


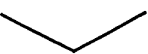
10 R₁₂ and R₁₃ are independently selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₃-C₁₀ cycloalkyl, C₅-C₁₀ heteroaryl, C₆-C₁₂ heteroarylalkyl and C₁-C₁₀ alkoxy, wherein each C₁-C₁₀ alkyl and C₁-C₁₀ alkoxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups.

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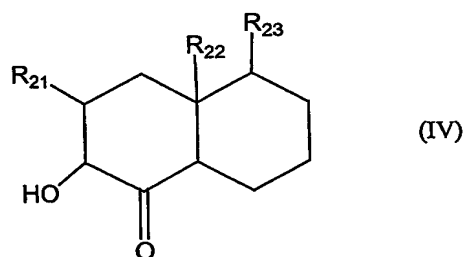
62. A material or article of manufacture for use in pest control according to claim 61, wherein R_{11} is C_2 - C_{10} alkenyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups, and R_{12} and R_{13} are independently selected from C_1 - C_{10} alkyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups.

5 63. A material or article of manufacture for use in pest control according to claim 58 wherein at least one compound of formula (I) is eremophilone.

64. A material or article of manufacture for use in pest control according to claim 58

wherein  represents  in the compound of formula (I).

65. A material or article of manufacture for use in pest control according to claim 58
10 wherein at least one compound of formula (I) is a compound of formula (IV):



wherein R_{21} , R_{22} and R_{23} are independently selected from the group consisting of H, OH, SH, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_2 - C_{10} alkynyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_4 - C_{10} cycloalkenylalkyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclalkyl, C_5 - C_{13} heterocyclalkenyl, C_1 - C_{10} alkoxy, C_2 - C_{10} alkenyloxy, C_1 - C_{10} alkylthio, C_2 - C_{10} alkenylthio, $[C(R_7)_2]_n$ halo, $[C(R_7)_2]_n(C=O)R_6$, $[C(R_7)_2]_n(C=S)R_6$, $[C(R_7)_2]_nN(R_4)_2$, $[C(R_7)_2]_n(C=NR_4)R_6$, $[C(R_7)_2]_nNO_2$ and $[C(R_7)_2]_nNR_4OR_8$;

each R_4 is independently selected from the group consisting of H, OH, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_6 - C_{10} aryl, C_7 - C_{12} arylalkyl, C_8 - C_{13} arylalkenyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, C_4 - C_{10} cycloalkylalkyl, C_3 - C_{10} heterocyclyl, C_4 - C_{12} heterocyclalkyl, C_5 - C_{13} heterocyclalkenyl, C_1 - C_{10} alkoxy and C_2 - C_{10} alkenyloxy;

R_6 is selected from the group consisting of H, OH, C_1 - C_{10} alkoxy, C_1 - C_{10} alkyl, C_2 - C_{10}

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alkenyloxy, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₆-C₁₀ aryloxy, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₃-C₆ cycloalkyloxy, C₃-C₆ cycloalkenyloxy, C₃-C₁₀ heterocyclyl, C₃-C₁₀ heterocyclyloxy, C₁-C₁₀ alkylthio, C₁-C₁₀ alkenylthio, C₆-C₁₀ arylthio, C₃-C₆ cycloalkylthio, and C₃-C₁₀ heterocyclylthio;

- 5 R₇ is selected from the group consisting of H, halogen, OR₅, SR₅, N(R₄)₂, (C=O)R₆, (C=S)R₆, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₃-C₁₀ heterocyclyl, C₃-C₆ cycloalkyl, C₇-C₁₂ arylalkyl, C₄-C₁₂ heterocyclylalkyl, C₄-C₁₀ cycloalkylalkyl, C₈-C₁₃ arylalkenyl, C₅-C₁₃ heterocyclylalkenyl, and NO₂;

- 10 R₈ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₅-C₁₀ cycloalkylalkenyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclylalkyl and C₅-C₁₃ heterocyclylalkenyl; and

n is 0 or an integer selected from 1 to 5;

- 15 wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group is optionally substituted.

66. A material or article of manufacture for use in pest control according to claim 65 wherein R₂₁ is selected from the group consisting of C₂-C₁₀ alkenyl, C₇-C₁₂ arylalkyl, C₆-C₁₂ heteroarylalkyl and C₂-C₁₀ alkenyloxy wherein each C₂-C₁₀ alkenyl or C₂-C₁₀ alkenyloxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups; and

- 20 R₂₂ and R₂₃ are independently selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₃-C₁₀ cycloalkyl, C₅-C₁₀ heteroaryl, C₆-C₁₂ heteroarylalkyl and C₁-C₁₀ alkoxy, wherein each C₁-C₁₀ alkyl and C₁-C₁₀ alkoxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups.

- 25 67. A material or article of manufacture for use in pest control according to claim 66 wherein R₂₁ is C₂-C₁₀ alkenyl, optionally substituted with a hydroxy, thiol or nitro group or 1 to 3 halo groups, and R₂₂ and R₂₃ are independently selected from C₁-C₁₀ alkyl, optionally substituted with a hydroxy, thiol or nitro group or 1 to 3 halo groups.

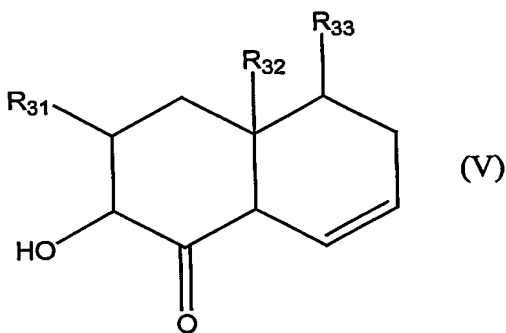
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68. A material or article of manufacture for use in pest control according to claim 58 wherein at least one compound of formula (I) is 8-hydroxy-1(10)dihydroeremophilone.

69. A material or article of manufacture for use in pest control according to claim 58

wherein  represents .

5 70. A material or article of manufacture for use in pest control according to claim 58 comprising at least one compound of formula (V):



10 wherein R₃₁ is selected from the group consisting of C₂-C₁₀ alkenyl, C₇-C₁₂ arylalkyl, C₆-C₁₂ heteroarylalkyl and C₂-C₁₀ alkenyloxy wherein each C₂-C₁₀ alkenyl or C₂-C₁₀ alkenyloxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups; and

R₃₂ and R₃₃ are independently selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₃-C₁₀ cycloalkyl, C₅-C₁₀ heteroaryl, C₆-C₁₂ heteroarylalkyl and C₁-C₁₀ alkoxy, wherein each C₁-C₁₀ alkyl and C₁-C₁₀ alkoxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups.

15 71. A material or article of manufacture for use in pest control according to claim 70 wherein R₃₁ is C₂-C₁₀ alkenyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups, and R₃₂ and R₃₃ are independently selected from C₁-C₁₀ alkyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups.

20 72. A material or article of manufacture for use in pest control according to claim 58 wherein at least one compound of formula (I) is 8-hydroxyeremophila-1,11-dienone.

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73. A material or article of manufacture for use in pest control according to claim 58 wherein the composition comprises an extract containing at least one compound of formula (I) obtained from a volatile oil bearing plant from the Myoporaceae family.

74. A material or article of manufacture for use in pest control according to claim 73 wherein the extract is obtained from *Eremophila*, *Myoporum* and *Bonita* genera.

75. A material or article of manufacture for use in pest control according to claim 74 wherein the extract is obtained from *E. alternifolia*, *E. duttonii*, *E. Freelingii*, *E. longifolia*, *E. cuneifolia*, *E. dalayana*, *E. abietina*, *E. caerulea*, *E. virgata*, *E. interstans*, *E. flaccida*, *E. leucophylla*, *E. metallicorum*, *E. georgei*, *E. subteritifolia*.

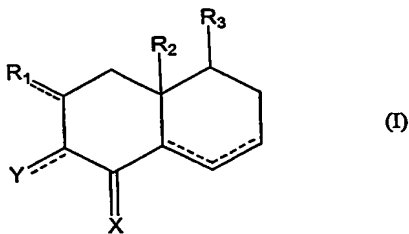
76. A material or article of manufacture for use in pest control according to claim 58 which is selected from the group consisting of a pest shield, pest barrier, soil or a timber product.

77. A pest control coating comprising a composition according to claim 1.

78. A pest control coating comprising a composition according to claim 20.

79. A method of combating an already existing wood associated pest infestation comprising applying a composition according to claim 1 or claim 20 or a coating of claim 77 or claim 78 to wood associated pest affected surface.

80. Use of at least one compound of formula (I) or a tautomer thereof in the manufacture of a composition for controlling pests:



wherein:

X is selected from the group consisting of O, S or N-R₄;

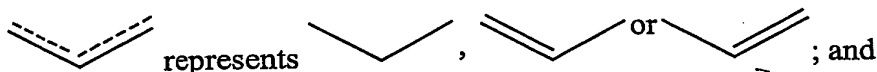
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when ----- is a single bond attached to Y, Y is selected from the group consisting of H, $[C(R_7)_2]_n\text{halo}$, $[C(R_7)_2]_n\text{OR}_5$, $[C(R_7)_2]_n\text{SR}_5$, $[C(R_7)_2]_n(\text{C}=\text{O})\text{R}_6$, $[C(R_7)_2]_n(\text{C}=\text{S})\text{R}_6$, $[C(R_7)_2]_n\text{N}(\text{R}_4)_2$, $[C(R_7)_2]_n(\text{C}=\text{NR}_4)\text{R}_6$, $[C(R_7)_2]_n\text{NO}_2$ and $[C(R_7)_2]_n\text{NR}_4\text{OR}_8$; cycloalkylthio, and $\text{C}_3\text{-C}_{10}$ heterocyclylthio;

- 5 R_7 is selected from the group consisting of H, halogen, OR_5 , SR_5 , $\text{N}(\text{R}_4)_2$, $(\text{C}=\text{O})\text{R}_6$, $(\text{C}=\text{S})\text{R}_6$, $\text{C}_1\text{-C}_{10}$ alkyl, $\text{C}_2\text{-C}_{10}$ alkenyl, $\text{C}_6\text{-C}_{10}$ aryl, $\text{C}_3\text{-C}_{10}$ heterocyclyl, $\text{C}_3\text{-C}_6$ cycloalkyl, $\text{C}_7\text{-C}_{12}$ arylalkyl, $\text{C}_4\text{-C}_{12}$ heterocyclylalkyl, $\text{C}_4\text{-C}_{10}$ cycloalkylalkyl, $\text{C}_8\text{-C}_{13}$ arylalkenyl, $\text{C}_5\text{-C}_{13}$ heterocyclylalkenyl, and NO_2 ;

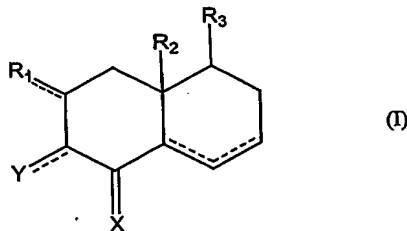
- 10 R_8 is selected from the group consisting of H, $\text{C}_1\text{-C}_{10}$ alkyl, $\text{C}_2\text{-C}_{10}$ alkenyl, $\text{C}_6\text{-C}_{10}$ aryl, $\text{C}_7\text{-C}_{12}$ arylalkyl, $\text{C}_8\text{-C}_{13}$ arylalkenyl, $\text{C}_3\text{-C}_6$ cycloalkyl, $\text{C}_3\text{-C}_6$ cycloalkenyl, $\text{C}_4\text{-C}_{10}$ cycloalkylalkyl, $\text{C}_5\text{-C}_{10}$ cycloalkylalkenyl, $\text{C}_3\text{-C}_{10}$ heterocyclyl, $\text{C}_4\text{-C}_{12}$ heterocyclylalkyl and $\text{C}_5\text{-C}_{13}$ heterocyclylalkenyl;

n is 0 or an integer selected from 1 to 5;



- 15 wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group is optionally substituted.

81. Use of at least one compound of formula (I) or a composition containing at least one compound of formula (I) in the manufacture of an article or material for controlling pests:



- 20 wherein:

X is selected from the group consisting of O, S or N- R_4 ;

when ----- is a single bond attached to Y, Y is selected from the group consisting of H, $[C(R_7)_2]_n\text{halo}$, $[C(R_7)_2]_n\text{OR}_5$, $[C(R_7)_2]_n\text{SR}_5$, $[C(R_7)_2]_n(\text{C}=\text{O})\text{R}_6$, $[C(R_7)_2]_n(\text{C}=\text{S})\text{R}_6$,

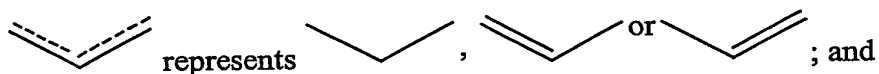
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$[C(R_7)_2]_n N(R_4)_2$, $[C(R_7)_2]_n (C=NR_4)R_6$, $[C(R_7)_2]_n NO_2$ and $[C(R_7)_2]_n NR_4OR_8$; cycloalkylthio, and C₃-C₁₀ heterocyclithio;

R₇ is selected from the group consisting of H, halogen, OR₅, SR₅, N(R₄)₂, (C=O)R₆, (C=S)R₆, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₃-C₁₀ heterocyclyl, C₃-C₆ cycloalkyl, C₇-C₁₂ arylalkyl, C₄-C₁₂ heterocyclalkyl, C₄-C₁₀ cycloalkylalkyl, C₈-C₁₃ arylalkenyl, C₅-C₁₃ heterocyclalkenyl, and NO₂;

R₈ is selected from the group consisting of H, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₆-C₁₀ aryl, C₇-C₁₂ arylalkyl, C₈-C₁₃ arylalkenyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₄-C₁₀ cycloalkylalkyl, C₅-C₁₀ cycloalkylalkenyl, C₃-C₁₀ heterocyclyl, C₄-C₁₂ heterocyclalkyl and C₅-C₁₃ heterocyclalkenyl;

n is 0 or an integer selected from 1 to 5;



wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group is optionally substituted;

15 wherein the article or material is coated or impregnated with the at least one compound of formula (I) or composition containing the at least one compound of formula (I).